

APR - 1 2004
OFFICIAL

PATENT

Attorney Docket No.: P2292.D1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kazuhiko Amano, et al.

Group Art Unit: 3736

Serial No.: 09/587,049

Examiner: Robert L. Nasser

Filed: June 2, 2000

Title: Device For Diagnosing Physiological State And Device For Controlling The Same

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this transmittal is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Date: April 1, 2004

Ann To George

AMENDMENT D TRANSMITTAL LETTER AND
PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) (IF REQUIRED)COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450

Transmitted herewith is an amendment in the above-identified application. The fee is calculated as shown below:

Claims Remaining After Amendment	Highest # Previously Paid For	# Extra	Rate	Additional Fee
Total Claims: 36	42		\$18.00	\$
Independent Claims: 11	13		\$86.00	\$
<input type="checkbox"/> 1st Presentation of Multiple Dependent Claims			\$290.00	\$
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT				\$

- ☒ No additional fee is required.
- ☐ Applicant(s) petition for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d) for the total number of months checked below.

Extension (Months)	Fee For Large Entity
<input type="checkbox"/> One (1) Month	\$110.00
<input type="checkbox"/> Two (2) Months	\$420.00
<input type="checkbox"/> Three (3) Months	\$950.00
<input type="checkbox"/> Four (4) Months	\$1480.00

FEE: \$

- ☒ If an extension of time is required, please consider this a petition therefor together with authorization to charge Deposit Account No. 19-2746 for any extension fee.
- ☐ Relative to response to the Final Office Action, an extension for _____ months has already been secured and the fee paid therefor of \$_____ is deducted from the total fee due for the total months of extension now requested.
- ☒ Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

Customer No. 20178
Amendment D Transmittal

P2292.D1

09/587,049

Amendment D

AMENDMENTS TO CLAIMS:

The listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-7. (Cancelled)

8. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state related to arousal or sedation in a patient and a blood pulse waveform in the patient;

an administering means for administering a drug to the patient;

a recording means for recording blood pulse waveforms corresponding to a physiological state in which drug administration is necessary; and

a drug administration control means for comparing the blood pulse waveform measured by the measuring means and the blood pulse waveforms stored in the recording means, and for issuing a command to carry out administration of a drug based on the result of the comparison.

9. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state related to arousal or sedation in a patient;

an administering means for administering a drug to the patient;

a drug administration control means for issuing a command to the administering means for drug administration when the indicator of the physiological state satisfies specific conditions; and

a means for detecting the output of a drug administration command, for determining from the point of this detection whether or not the indicator of physiological state has reached a state which does not satisfy the specified conditions, and for providing notification when the indicator of the physiological state has reached a state which does not satisfy the specified conditions.

OK to
enter
m
4/18/05

P2292.D1

09/587,049

Amendment D

10. (Previously Amended) A device for controlling a physiological state according to claim 9, wherein the administering means comprises an infuser of the drug.

11. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state related to arousal or sedation in a patient;

an administering means for administering a drug to the patient;

a blood pulse detector for detecting a blood pulse cycle of blood sent from the patient's heart; and

a drug administration control means for issuing a command to the administering means for drug administration when the indicator of the physiological state satisfies specific conditions,

wherein the drug administration control means issues a command to administer a drug to the administering means during the time interval from one blood pulse beat to the next blood pulse beat in synchronization with the blood pulse cycle.

12. (Original) A device for controlling a physiological state according to claim 11, wherein the administering means comprises an infuser of the drug.

13. (Currently Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured, up until a current point in time;

a control means for determining in advance a time when a drug is to be administered based on ~~a rhythm of at least one of a daily, monthly and annual cycle calculated by use of the indicator~~ circulatory indicators measured by the measuring means over a specified period of time specific number of days in the past, and for outputting a drug emission command at the determined time; and

an administering means for administering the drug in accordance with the drug emission command.

P2292.D1

09/587,049

Amendment D

14. (Original) A device for controlling a physiological state according to claim 13, wherein the administering means comprises an infuser of the drug.

15. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured, up until a current point in time;

a control means for selecting a time period in which the indicator is changing according to a specified trend, and for outputting a command to administer a drug during the time period; and

an administering means for administering the drug in accordance with the command; and

wherein the control means selects a time period in which the indicator is changing according to a specified trend, and outputs a command to administer a drug during the time period.

16. (Currently Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured, up until a current point in time;

a control means for outputting a drug emission command at a time determined in advance based on a current indicator of the physiological state and on a rhythm of at least one of a daily, monthly and annual cycle calculated in advance by use of the indicator circulatory indicators measured by the measuring means over a specified period of time specific number of days in the past; and

an administering means for administering a drug in accordance with the drug emission command.

17. (Original) A device for controlling a physiological state according to claim 16, wherein the administering means comprises an infuser of the drug.

P2292.D1

09/587,049

Amendment D

18. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured, up until a current point in time;

a control means for selecting a time period in which the indicator is changing according to a specified trend, and for outputting a command to administer a drug when the trend of the change differs from a trend demonstrated by the indicator during a past time period; and

an administering means for administering a drug in accordance with the command; and

wherein the control means selects a time period in which the indicator is changing according to a specified trend, and outputs a command to administer a drug when the trend of the change differs from a trend demonstrated by the indicator during a past time period.

19. (Original) A device for controlling a physiological state according to claim 16, wherein the control means selects a specified time period, and outputs a command to administer a drug when the indicator during the specified time period deviates a fixed amount above a moving average obtained in the past for the indicator.

20. (Previously Amended) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured, up until a current point in time;

a control means for determining when a drug is to be administered based on a rhythm of variation displayed by the indicator over a specified period of time, and for outputting a drug emission command at a determined time;

an administering means for administering the drug in accordance with the drug emission command; and

P2292.D1

09/587,049

Amendment D

a means for detecting an output of the drug emission command, determining from the point of this detection whether or not the indicator of the physiological state indicates a first state which does not require emission of a drug, and providing notification when the indicator of the physiological state has reached the first state.

21. (Original) A device for controlling a physiological state according to claims 13 or 16, further comprising a first notification means for obtaining an amount of drug administered, and providing notification when the summed value of the administered amount reaches a specified amount.

22. (Original) A device for controlling a physiological state according to claim 21, comprising a second notification means for monitoring whether or not the emission of the drug is being carried out normally, and providing notification when an anomaly is present.

23. (Original) A device for controlling a physiological state according to claim 22, the device being portable, and comprising a battery and operating based on voltage supplied from the battery, and comprising an electricity supply control means intermittently supplying the voltage output from the battery to elements in the device.

24. (Original) A device for controlling a physiological state according to claim 23, further comprising a third notification means for providing notification when the voltage output from the battery falls below a specified voltage.

25. (Original) A device for controlling a physiological state according to claims 13 or 16, further comprising a blood pulse detection means for detecting in a body a blood pulse cycle blood output from a heart, wherein the control means issues a command to administer a drug during a time interval from one blood pulse beat to a next blood pulse beat in synchronization with the blood pulse cycle.

26. (Withdrawn) A device for controlling a physiological state, comprising:
a measuring means for measuring an indicator of a physiological state;

P2292.D1

09/587,049

Amendment D

a control means for determining a user's doze state by comparing the indicator of the physiological state with a predetermined standard value, and outputting a warning indicator when a doze state is detected; and

a notifying means for warning the user based on the warning indicator output from the control means.

27. (Withdrawn) A device for controlling a physiological state, comprising:

a measuring means for measuring an indicator of a physiological state;

a recording means for storing the indicator measured over a specified period of time;

a calculating means for reading out indicators of the physiological state over a specified period of prior time from the recording means, and calculating the moving average of the indicators;

a control means for determining the user's doze state by comparing the moving average of the indicators with a predetermined standard value, and outputting a warning indicator when a doze state is detected; and

a notifying means for warning the user based on the warning indicator output from the control means.

28. (Withdrawn) A device for controlling a physiological state according to claims 26 or 27, further comprising:

a transfer means for transferring to a vehicle, operated by the user, braking control information for controlling a braking action of the vehicle; and

a braking control means for braking the vehicle in response to the braking control information transferred by the transfer means when the control means has detected a doze state.

29. (Withdrawn) A device for controlling a physiological state according to claims 26 or 27, further comprising an administering means for administering a drug with a stimulating effect in response to said warning indicator output from the control means.

30. (Withdrawn) A device for controlling a physiological state according to claims 26 or 27, further comprising a means for calculating a level of the user's

P2292.D1

09/587,049

Amendment D

alertness from a comparison between the indicator and a standard value, and carrying out notification that the level of alertness is high when the level of alertness exceeds a specified value.

31-38. (Cancelled)

39. (Original) A device for controlling a physiological state according to claim 9, wherein the administering means comprises an emission of the drug.

40. (Original) A device for controlling a physiological state according to claim 11, wherein the administering means comprises an emission of the drug.

41. (Original) A device for controlling a physiological state according to claim 13, wherein the administering means comprises an emission of the drug.

42. (Original) A device for controlling a physiological state according to claim 16, wherein the administering means comprises an emission of the drug.

43. (Original) A device for controlling a physiological state, comprising:
a measuring means for measuring an indicator of a physiological state;
a recording means for storing the indicator measured, up until a current point in time;
a control means for outputting a drug emission command based on a current indicator of the physiological state and on a rhythm of variation in the indicator over a specified period of time;
an administering means for administering a drug in accordance with the drug emission command; and
a means for detecting an output of the drug emission command, determining from the point of this detection whether or not the indicator of the physiological state indicates a first state which does not require emission of a drug, and providing notification when the indicator of the physiological state has reached the first state.